DOING SCIENCE: THE PROCESS OF SCIENTIFIC INQUIRY		
West Virginia Science Content Standards and Objectives – Grades 6, 7, 8		
Lesson	**Standard**	**Objective**
All lessons	**SC.6.1.1** **SC.7.1.1** **SC.8.1.1**	Explain that scientists formulate and test their explanations of nature using observation and experiments.
1, 2	**SC.6.1.2** **SC.7.1.2** **SC.8.1.2**	Recognize that scientific knowledge is subject to modification as new scientific information challenges current theories.
All lessons	**SC.6.2.1** **SC.7.2.1** **SC.8.2.1**	Cooperate and collaborate to ask questions, find answers, solve problems, and conduct investigations to further an appreciation of scientific discovery.
1, 3, 4	**SC.6.2.2** **SC.7.2.2** **SC.8.2.2**	Formulate conclusions through close observations, logical reasoning, objectivity, perseverance and integrity in data collection.
All lessons	**SC.6.2.3** **SC.7.2.3** **SC.8.2.3**	Apply skepticism, careful methods, logical reasoning and creativity in investigating the observable universe.
1, 3	**SC.6.2.4** **SC.7.2.4** **SC.8.2.4**	Use a variety of materials and scientific instruments to conduct explorations, investigations and experiments of the natural world (e.g., barometer, anemometer, microscope, computer).
1, 3	**SC.6.2.5** **SC.7.2.5** **SC.8.2.5**	Demonstrate safe techniques for handling, manipulating and caring for science materials, equipment, natural specimens and living organisms.
All lessons	**SC.6.2.6** **SC.7.2.6** **SC.8.2.6**	Utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, identifying dependent and independent variables).
1, 3, 4	**SC.6.2.7** **SC.7.2.7** **SC.8.2.7**	Construct and use charts, graphs and tables to organize, display, interpret, analyze and explain data.

1, 3, 4	**SC.6.2.8 SC.7.2.8 SC.8.2.8**	Use inferential reasoning to make logical conclusions from collected data.
1, 3, 4	**SC.6.2.9 SC.7.2.9 SC.8.2.9**	Use appropriate technology solutions to gather data; graph data; interpret data; and analyze information.
1, 3, 4	**SC.6.3.2 SC.7.3.2 SC.8.3.2**	Construct a variety of useful models of an object, event, or process.
1, 3	**SC.6.3.3 SC.7.3.3 SC.8.3.3**	Compare and contrast changes that occur in an object or a system to its original state.
3, 4	**SC.7.5.1**	Make and compare different proposed solutions to an identified problem in light of specified criteria.
3, 4	**SC.6.6.1 SC.7.6.1 SC.8.6.1**	Use scientific reasoning and the knowledge of science and technology to make informed personal decisions at the local and global levels.
4	**SC.6.6.2 SC.7.6.2 SC.8.6.2**	Evaluate and critically analyze mass media reports of scientific developments and events.
West Virginia Math Content Standards and Objectives – Grades 6, 7, 8		
Lesson	**Standard**	**Objective**
3, 4	**MA.6.1.5**	Use estimation to solve problems with whole numbers, fractions and decimals.
3, 4	**MA.6.1.6**	Solve problems in context involving addition, subtraction, multiplication, and division of whole numbers, fractions, mixed numbers and decimals.
3, 4	**MA.6.1.8**	Convert between fractions, mixed numbers, decimals and percents.
4	**MA.6.1.9**	Find the percent of a number.
3, 4	**MA.6.2.9**	Use variables to represent and solve real world problems appropriate for the 6^{th} grade using multiple strategies.
1, 3, 4	**MA.6.5.1**	Collect, organize, display, and read data using appropriate graphs and tables.

3, 4	**MA.7.1.5**	Perform operations with integers (e.g., addition, subtraction, multiplication, division).
3, 4	**MA.7.1.7**	Solve application problems with whole numbers, decimals, fractions and percents.
4	**MA.7.2.6**	Use ratios and proportions to represent and solve application problems.
3, 4	**MA.7.2.13**	Represent and solve real world problems appropriate for 7^{th} grade using multiple strategies.
1, 3, 4	**MA.7.5.3**	Collect, organize, graphically represent, and interpret data displays including: frequency distributions, line plots, scatter plots, box and whiskers, and multiple-line graphs.
3, 4	**MA.8.1.5**	Use estimation techniques with whole numbers, decimals, percent, fractions and mixed numbers to solve and verify solutions in application problems.
3, 4	**MA.8.1.6**	Solve application problems with whole numbers, decimals, fractions, percents and integers including, but not limited to, rates, tips, discounts, sales tax and interest.
4	**MA.8.2.3**	Use ratio and proportion to create and solve equations.
3, 4	**MA.8.2.10**	Represent and solve real world problems appropriate for 8^{th} grade using multiple strategies.
1, 3, 4	**MA.8.5.3**	Create and extrapolate information from multiple-bar graphs, box and whisker plots, and other data displays using appropriate technology.
4	**MA.8.5.4**	Analyze problem situations, games of chance, and consumer applications using statistical samplings to determine probability and make predictions.
3, 4	**MA.8.5.5**	Draw inferences and construct convincing arguments, including misuses of statistical or numeric information, based on data analysis.
West Virginia Reading and Language Arts Content Standards and Objectives – Grades 6, 7, 8		
Lesson	**Standard**	**Objective**
All lessons	**RLA.8.1.3**	Use comprehension strategies (e.g., make judgments; hypothesize; critique; analyze).
3, 4	**RLA.6.1.4**	Analyze text to determine transitional words/language.
All lessons	**RLA.6.1.5** **RLA.7.1.4**	Use comprehension strategies (e.g., generalize; evaluate; infer; paraphrase, draw conclusions, interpret meaning).
All lessons	**RLA.6.1.10** **RLA.8.1.10**	Use resource materials (e.g., dictionary; glossary; thesaurus) to determine the meaning of unknown words or multiple meaning words.
All lessons	**RLA.6.1.11**	Use connotation and denotation to understand meaning.

All lessons	**RLA.6.1.12 RLA.7.1.13 RLA.8.1.11**	Use root words, prefixes and suffixes to spell words, change word meanings and generate new words appropriate to grade level.
All lessons	**RLA.6.2.2 RLA.7.2.1 RLA.8.2.2**	From a prompt, use the writing process to develop a composition that contains specific, relevant details and transitions.
All lessons	**RLA.6.2.3**	Use writing strategies to address specific writing purposes (e.g., creative; journalistic; essay; narrative; informative; persuasive) and address various audiences (e.g., peers; teachers; employers).
All lessons	**RLA.7.2.3**	Use the writing process to compose various types of writing (e.g., creative; informative; expository; persuasive; articles; essays; journals; letters; poetry; research/reports).
3, 4	**RLA.6.2.19**	Use traditional organizers to create, read, interpret and organize information in the form of tables, graphs, diagrams and charts.
All lessons	**RLA.6.3.1 RLA.7.3.1 RLA.8.3.1**	Recognize and exhibit oral communication skills (e.g., volume; rate; audience etiquette).
3	**RLA.8.3.2**	Present an oral report with graphic aids (e.g., tables; graphs; diagrams; charts).
3, 4	**RLA.8.3.3**	Think critically about oral/visual information presented; relate personal experiences and apply the information to global situations.
All lessons	**RLA.6.3.3 RLA.7.3.4 RLA.8.3.4**	Listen in order to comprehend topic and purpose (e.g., of a guest speaker; informational video; televised interview; radio news program).
All lessons	**RLA.6.3.4**	Reach consensus in group discussions or settings.
All lessons	**RLA.7.3.5 RLA.8.3.5**	Play a variety of roles in group discussions, including active listener and discussion leader and/or facilitator.
West Virginia Health Content Standards and Objectives – Grades 6, 7, 8		
Lesson	**Standard**	**Objective**
2, 3, 4	**HE.6.4.3**	Identify the importance of respecting people's differences.
3, 4	**HE.6.6.2**	Explain how the goal setting and decision-making processes are important in designing strategies to quit using tobacco and other risking behaviors.

3, 4	**HE.7.2.2**	Identify situations that require professional health services and community resources that can provide those services.
2, 3, 4	**HE.7.4.3**	Recognize the importance of respecting individual differences.
3	**HE.8.1.2**	Apply nutritional concepts to food choices and disease prevention.